

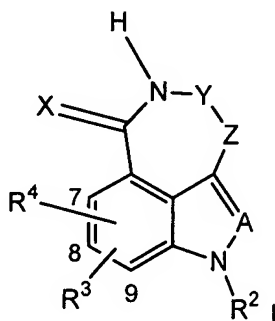
**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

We Claim:

1. (currently amended) A compound of the formula:



wherein:

X is =O or =S;

A is =CR<sup>1</sup>- or =N-;

The group -Y-Z- has the formula -O-CH<sub>2</sub>- or -N=CH-;

R<sup>1</sup> is:

(a) (C<sub>1</sub>-C<sub>8</sub>)alkyl;

(b) -C(=O)-R<sup>5</sup>;

(c) -C(=O)-NR<sup>6</sup>R<sup>7</sup>; or

(d) R<sup>35</sup>, or R<sup>36</sup>, (C<sub>2</sub>-C<sub>8</sub>)alkenyl, or (C<sub>2</sub>-C<sub>8</sub>)alkynyl {wherein each of said (C<sub>2</sub>-C<sub>8</sub>)alkenyl or (C<sub>2</sub>-C<sub>8</sub>)alkynyl is unsubstituted or substituted with one to four substituents independently selected from the group consisting of F, Cl, OH, -NH<sub>2</sub>, R<sup>40</sup>, and R<sup>42</sup>};

R<sup>2</sup> is

(a) H, OH, or (C<sub>1</sub>-C<sub>8</sub>)alkyl;

(b) -C(=O)-R<sup>8</sup>;

(c) -(C=S)-R<sup>9</sup> or -(C=S)-NR<sup>10</sup>R<sup>11</sup>; or

(d) R<sup>38</sup> or R<sup>39</sup>;

R<sup>3</sup> is

(a) (C<sub>4</sub>-C<sub>8</sub>)alkyl; R<sup>38</sup>;

(b) -C(=O)-R<sup>12</sup>;

(c) -C(=O)-NR<sup>13</sup>R<sup>14</sup>;

(d) -NR<sup>15</sup>-C(=O)-R<sup>16</sup>;

(e) -NR<sup>17</sup>-SO<sub>2</sub>R<sup>18</sup>;

(f) -NR<sup>19</sup>-SO<sub>n</sub>-NR<sup>20</sup>R<sup>21</sup> {wherein n is 1 or 2};

(g)  $-NR^{22}-(C=S)-R^{23}$  or  $-NR^{22}-(C=S)-NR^{23}R^{24}$ ;

(h)  $R^{36}$ ,  $(C_2-C_8)$ alkenyl, or  $(C_2-C_8)$ alkynyl {wherein each of said  $R^3$   $(C_2-C_8)$ alkenyl or  $(C_2-C_8)$ alkynyl is unsubstituted or substituted with one to four substituents independently selected from the group consisting of  $-(C=O)-O-(C_1-C_8)$ alkyl,  $-O-(C=O)-(C_1-C_8)$ alkyl,  $-(C=O)-(C_1-C_8)$ alkyl,  $R^{40}$ ,  $R^{41}$ , and  $R^{42}$ }; or

(i)  $R^{37}$ ,  $-NH_2$ ,  $-NH((C_2-C_8)$ alkenyl),  $-NH((C_2-C_8)$ alkynyl),  $-N((C_1-C_8)$ alkyl)(( $C_2-C_8$ )alkenyl), or  $-N((C_1-C_8)$ alkyl)(( $C_2-C_8$ )alkynyl) {wherein each of said  $R^{26}$   $(C_2-C_8)$ alkenyl or  $(C_2-C_8)$ alkynyl is unsubstituted or substituted with one to four substituents independently selected from the group consisting of  $R^{40}$ ,  $R^{41}$ , and  $R^{42}$ }; or

(j)  $R^{38}$ ;

$R^4$  is selected from the group consisting of H, F, Br, Cl, and  $(C_1-C_8)$ alkyl;

$R^5$  is selected from the group consisting of H,  $(C_1-C_8)$ alkyl,  $(C_1-C_8)$ alkyl-O-, and  $R^{36}$ ;

Each  $R^6$  and  $R^7$  are independently selected from the group consisting of H,  $(C_1-C_8)$ alkyl, and  $R^{36}$ ;

$R^8$  is selected from the group consisting of  $(C_1-C_8)$ alkyl,  $(C_2-C_8)$ alkenyl,  $(C_2-C_8)$ alkynyl,  $-NH_2$ ,  $R^{36}$ , and  $R^{37}$ ;

Each of  $R^9$ ,  $R^{10}$  and  $R^{11}$  are independently selected from the group consisting of H,  $(C_1-C_8)$ alkyl, and  $R^{36}$ ;

$R^{12}$  is selected from the group consisting of H, OH,  $(C_1-C_8)$ alkyl,  $(C_1-C_8)$ alkyl-O-, and  $R^{36}$ ;

$R^{13}$  is H or  $(C_1-C_8)$ alkyl;

$R^{14}$  is selected from the group consisting of H,  $(C_1-C_8)$ alkyl,  $-CH_2-(C=O)-O-(C_1-C_8)$ alkyl, and  $R^{36}$ ;

$R^{15}$  is H or  $(C_1-C_8)$ alkyl;

$R^{16}$  is selected from the group consisting of H,  $(C_1-C_8)$ alkyl,  $(C_2-C_8)$ alkenyl,  $(C_2-C_8)$ alkynyl,  $-NH_2$ ,  $R^{36}$ , and  $R^{37}$ ;

wherein said  $R^{16}$   $(C_2-C_8)$ alkenyl or  $(C_2-C_8)$ alkynyl is unsubstituted or substituted with one to four substituents independently selected from the group consisting of  $R^{40}$ ;

$R^{17}$  is selected from the group consisting of H,  $(C_1-C_8)$ alkyl, and  $R^{36}$ ;

$R^{18}$  is  $(C_1-C_8)$ alkyl or  $R^{36}$ ;

$R^{19}$ ,  $R^{20}$ , and  $R^{21}$  are independently selected from the group consisting of H,  $(C_1-C_8)$ alkyl, and  $R^{36}$ ;

$R^{22}$ ,  $R^{23}$  and  $R^{24}$  are independently selected from the group consisting of H,  $(C_1-C_8)$ alkyl, and  $R^{36}$ ;

$R^{25}$  is H or  $(C_1-C_8)$ alkyl;

$R^{26}$  is selected from the group consisting of  $-C(=O)-O-C(CH_3)_3$ ,  $(C_1-C_8)$ alkyl,  $-(CR^{13}R^{15})_t(C_3-C_{10})$ cycloalkyl,  $-(CR^{13}R^{15})_t(C_2-C_{10})$ heterocyclyl,  $-(CR^{13}R^{15})_t(C_6-C_{10})$ aryl, and  $-(CR^{13}R^{15})_t(C_1-C_{10})$ heteroaryl; wherein t is an integer from 0 to 2;

or R<sup>25</sup> and R<sup>26</sup> may optionally be taken together with the nitrogen to which they are attached to form a 5 to 8-membered heteroaryl or heterocyclyl ring;

R<sup>27</sup> is selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, and (C<sub>1</sub>-C<sub>10</sub>)heteroaryl;

R<sup>28</sup> is selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, and (C<sub>1</sub>-C<sub>10</sub>)heteroaryl;

R<sup>29</sup> is H or (C<sub>1</sub>-C<sub>8</sub>)alkyl;

R<sup>30</sup> is (C<sub>1</sub>-C<sub>8</sub>)alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, or (C<sub>1</sub>-C<sub>10</sub>)heteroaryl;

or R<sup>29</sup> and R<sup>30</sup> may optionally be taken together with the nitrogen to which they are attached to form a 5 to 8-membered heteroaryl or heterocyclyl ring;

R<sup>31</sup> is H or (C<sub>1</sub>-C<sub>8</sub>)alkyl;

R<sup>32</sup> is independently selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, and (C<sub>1</sub>-C<sub>10</sub>)heteroaryl;

or R<sup>31</sup> and R<sup>32</sup> may optionally be taken together with the nitrogen to which they are attached to form a 5 to 8-membered heteroaryl or heterocyclyl ring;

R<sup>33</sup> is (C<sub>1</sub>-C<sub>8</sub>)alkyl, -(CR<sup>13</sup>R<sup>15</sup>)<sub>q</sub>(C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, -(CR<sup>13</sup>R<sup>15</sup>)<sub>q</sub>(C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, -(CR<sup>13</sup>R<sup>15</sup>)<sub>q</sub>(C<sub>6</sub>-C<sub>10</sub>)aryl, or -(CR<sup>13</sup>R<sup>15</sup>)<sub>q</sub>(C<sub>1</sub>-C<sub>10</sub>)heteroaryl; wherein q is an integer from 0 to 2;

R<sup>34</sup> is (C<sub>1</sub>-C<sub>8</sub>)alkyl, -(CR<sup>13</sup>R<sup>15</sup>)<sub>p</sub>(C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, -(CR<sup>13</sup>R<sup>15</sup>)<sub>p</sub>(C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, -(CR<sup>13</sup>R<sup>15</sup>)<sub>p</sub>(C<sub>6</sub>-C<sub>10</sub>)aryl, or -(CR<sup>13</sup>R<sup>15</sup>)<sub>p</sub>(C<sub>1</sub>-C<sub>10</sub>)heteroaryl; wherein p is an integer from 0 to 2;

Each R<sup>35</sup> is independently selected from the group consisting of H, F, Cl, Br, I, CN, OH, NO<sub>2</sub>, -NH<sub>2</sub>, -NH-C(=O)-O-C(CH<sub>3</sub>)<sub>3</sub>, and CF<sub>3</sub>;

Each R<sup>36</sup> is independently selected from the group consisting of (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, and (C<sub>1</sub>-C<sub>10</sub>)heteroaryl;

Each R<sup>37</sup> is independently selected from the group consisting of -NR<sup>25</sup>R<sup>26</sup> and R<sup>27</sup>-O-;

R<sup>38</sup> is R<sup>28</sup>-SO<sub>n</sub>-; wherein n is 0, 1, or 2 when -SO<sub>n</sub>- is bonded to R<sup>28</sup> via an R<sup>28</sup> carbon atom, or wherein n is 1 or 2 when -SO<sub>n</sub>- is bonded to R<sup>28</sup> via an R<sup>28</sup> ring nitrogen atom;

R<sup>39</sup> is R<sup>29</sup>R<sup>30</sup>N-SO<sub>n</sub>-; wherein n is 1 or 2;

wherein each of said (C<sub>1</sub>-C<sub>8</sub>)alkyl, wherever it occurs in any of said R<sup>1</sup>(a)-(d), R<sup>2</sup>(a)-(d), R<sup>3</sup>(a)-(j)-(i), R<sup>4</sup>, R<sup>5</sup>, R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup>, R<sup>11</sup>, R<sup>12</sup>, R<sup>13</sup>, R<sup>14</sup>, R<sup>15</sup>, R<sup>16</sup>, R<sup>17</sup>, R<sup>18</sup>, R<sup>19</sup>, R<sup>20</sup>, R<sup>21</sup>, R<sup>22</sup>, R<sup>23</sup>, R<sup>24</sup>, R<sup>25</sup>, R<sup>26</sup>, R<sup>27</sup>, R<sup>28</sup>, R<sup>29</sup>, R<sup>30</sup>, R<sup>31</sup>, R<sup>32</sup>, R<sup>33</sup>, R<sup>34</sup>, R<sup>37</sup>, R<sup>38</sup>, and R<sup>39</sup> is unsubstituted or substituted with one to four substituents independently selected from the group consisting of (C<sub>2</sub>-C<sub>8</sub>)alkenyl and R<sup>40</sup>;

wherein each of said (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, or (C<sub>1</sub>-C<sub>10</sub>)heteroaryl, wherever it occurs in said R<sup>1</sup>(b)-(d), R<sup>2</sup>(b)-(d), R<sup>3</sup>(a)-(j)-(i), R<sup>4</sup>, R<sup>5</sup>, R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup>, R<sup>11</sup>, R<sup>12</sup>, R<sup>13</sup>, R<sup>14</sup>, R<sup>15</sup>, R<sup>16</sup>, R<sup>17</sup>, R<sup>18</sup>, R<sup>19</sup>, R<sup>20</sup>, R<sup>21</sup>, R<sup>22</sup>, R<sup>23</sup>, R<sup>24</sup>, R<sup>25</sup>, R<sup>26</sup>, R<sup>27</sup>, R<sup>28</sup>, R<sup>30</sup>,

$R^{32}$ ,  $R^{33}$ ,  $R^{34}$ ,  $R^{36}$ ,  $R^{37}$ ,  $R^{38}$ , and  $R^{39}$  is independently unsubstituted or substituted with one to four substituents independently selected from  $R^{40}$ ;

$R^{40}$  is selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl,  $R^{41}$ ,  $R^{42}$ , and  $R^{43}$ ;

Each  $R^{41}$  is independently selected from the group consisting of F, Cl, Br, I, CN, OH, NO<sub>2</sub>, -NH<sub>2</sub>, -NH-C(=O)-O-C(CH<sub>3</sub>)<sub>3</sub>, COOH, -C(=O)(C<sub>1</sub>-C<sub>8</sub>)alkyl, -C(=O)-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -NH-SO<sub>2</sub>-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -NH-SO<sub>2</sub>-(C<sub>6</sub>-C<sub>10</sub>)aryl, and CF<sub>3</sub>;

Each  $R^{42}$  is independently selected from the group consisting of (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, and (C<sub>1</sub>-C<sub>10</sub>)heteroaryl;

Each  $R^{43}$  is independently selected from the group consisting of:

- $R^{31}R^{32}$ ,  $R^{33}$ -O-, and  $R^{34}$ -SO<sub>n</sub>-; wherein n is 0, 1, or 2 when -SO<sub>n</sub>- is bonded to  $R^{34}$  via an  $R^{34}$  carbon atom, or wherein n is 1 or 2 when -SO<sub>n</sub>- is bonded to  $R^{34}$  via an  $R^{34}$  ring nitrogen atom;

wherein each of said (C<sub>1</sub>-C<sub>8</sub>)alkyl, wherever it occurs in any of  $R^{40}$  and  $R^{41}$  is independently unsubstituted or substituted with one to four substituents independently selected from the group consisting of  $R^{44}$  and  $R^{45}$ ;

wherein each of said (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, or (C<sub>1</sub>-C<sub>10</sub>)heteroaryl, wherever it occurs in any of said  $R^{42}$  or  $R^{43}$ , is independently unsubstituted or substituted with one to four substituents independently selected from the group consisting of  $R^{47}$  selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl,  $R^{44}$ , and  $R^{45}$ ;

Each  $R^{44}$  is independently selected from the group consisting of F, Cl, Br, I, CN, OH, NO<sub>2</sub>, -NH<sub>2</sub>, -CF<sub>3</sub>, -C(=NH)-NH<sub>2</sub>, -C(=NH)-NH-OH, -C(=NH)-NH-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -C(=O)-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -O-C(=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -C(=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -C(=O)-NH<sub>2</sub>, -C(=O)-NH(C<sub>1</sub>-C<sub>8</sub>)alkyl, -C(=O)-N<[(C<sub>1</sub>-C<sub>8</sub>)alkyl]<sub>2</sub>, -NH-C(=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl,  $R^{37}$ , and  $R^{38}$ ;

Each  $R^{45}$  is independently selected from the group consisting of (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, and (C<sub>1</sub>-C<sub>10</sub>)heteroaryl;

wherein each of said (C<sub>1</sub>-C<sub>8</sub>)alkyl wherever it occurs in any of said  $R^{44}$  or  $R^{45}$  is independently unsubstituted or substituted with one to four substituents independently selected from the group consisting of  $R^{46}$  and  $R^{47}$ ;

wherein each of said (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, or (C<sub>1</sub>-C<sub>10</sub>)heteroaryl, wherever it occurs in any of said  $R^{43}$  or  $R^{44}$  is independently unsubstituted or substituted with one to four substituents independently selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl,  $R^{46}$  and  $R^{47}$ ;

Each  $R^{46}$  is independently selected from the group consisting of F, Cl, Br, I, CN, OH, NO<sub>2</sub>, -C(=NH)-NH<sub>2</sub>, -C(=NH)-NH-OH, -C(=NH)-NH-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -C(=O)-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -O-C(=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -C(=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -C(=O)-NH<sub>2</sub>, -C(=O)-NH(C<sub>1</sub>-C<sub>8</sub>)alkyl, -C(=O)-N<[(C<sub>1</sub>-C<sub>8</sub>)alkyl]<sub>2</sub>, -NH-C(=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -C(=NH)-NH<sub>2</sub>, -C(=NH)-NH-OH, -C(=NH)-NH-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -C(=O)-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -O-C(=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -C(=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl,

$-(C=O)-NH_2$ ,  $-(C=O)-NH(C_1-C_8)alkyl$ ,  $-(C=O)-N>[(C_1-C_8)alkyl]_2$ ,  $-NH-(C=O)-(C_1-C_8)alkyl$ ,  $R^{37}$ , and  $R^{38}$ ; and

Each  $R^{47}$  is independently selected from the group consisting of  $(C_3-C_{10})cycloalkyl$ ;  $(C_2-C_{10})heterocyclyl$ ,  $(C_6-C_{10})aryl$ , and  $(C_1-C_{10})heteroaryl$ ; or a pharmaceutically acceptable salt thereof.

2. (canceled)

3. (original) The compound according to claim 1 wherein  $R^3$  is selected from the group consisting of  $(C_2-C_8)alkenyl$ ,  $(C_2-C_8)alkynyl$ ,  $(C_3-C_6)cycloalkyl$ ,  $(C_2-C_{10})heterocyclyl$ , phenyl, and  $(C_1-C_{10})heteroaryl$ ; wherein each of said  $(C_2-C_8)alkenyl$  or  $(C_2-C_8)alkynyl$  is unsubstituted or substituted with one to three substituents independently selected from the group consisting of F, OH,  $-NH_2$ ,  $(C_1-C_8)alkyl-NH-$ ,  $[(C_1-C_8)alkyl]_2>N-$ ,  $(C_3-C_{10})cycloalkyl$ ,  $(C_2-C_{10})heterocyclyl$ ,  $(C_6-C_{10})aryl$ , and  $(C_1-C_{10})heteroaryl$ ; and wherein each of said  $(C_3-C_6)cycloalkyl$ ,  $(C_2-C_{10})heterocyclyl$ , phenyl, or  $(C_1-C_{10})heteroaryl$  is unsubstituted or substituted with one to four substituents independently selected from the group consisting of  $(C_1-C_8)alkyl$ , F, OH,  $-NH_2$ ,  $(C_1-C_8)alkyl-NH-$ ,  $[(C_1-C_8)alkyl]_2>N-$ ,  $(C_3-C_{10})cycloalkyl$ ,  $(C_2-C_{10})heterocyclyl$ ,  $(C_6-C_{10})aryl$ , and  $(C_1-C_{10})heteroaryl$ .

4. (original) The compound according to claim 1 wherein  $R^3$  is  $-C(=O)-NR^{13}R^{14}$  {wherein  $R^{13}$  is H or  $(C_1-C_8)alkyl$ }, wherein said  $R^{13}$   $(C_1-C_4)alkyl$  is unsubstituted or substituted with one to four substituents independently selected from the group consisting of F, OH,  $-NH_2$ ,  $R^{41}$ , and  $R^{42}$ ; wherein each of said  $R^{36}$  is unsubstituted or substituted with one or two substituents independently selected from the group consisting of  $(C_6-C_{10})aryl$ ,  $(C_1-C_{10})heteroaryl$ ,  $(C_2-C_{10})heterocyclyl$ ,  $(C_1-C_8)alkyl-NH-$ , and  $[(C_1-C_8)alkyl]_2>N-$ ; and wherein each of said  $(C_6-C_{10})aryl$  substituent is unsubstituted or substituted with one to three substituents independently selected from the group consisting of  $(C_1-C_8)alkyl$ , F, Cl,  $-CF_3$ , and OH.

5. (original) The compound according to claim 1 wherein  $R^3$  is  $-NR^{15}-C(=O)-R^{16}$ ; wherein  $R^{16}$  is  $(C_1-C_8)alkyl$  unsubstituted or substituted with one to four substituents independently selected from the group consisting of OH,  $R^{33}-O-$ , CN,  $-NH_2$ ,  $(C_1-C_8)alkyl-NH-$ ,  $-NH-(CR^{13}R^{15})_t(C_3-C_{10})cycloalkyl$ ,  $-NH-(CR^{13}R^{15})_t(C_2-C_{10})heterocyclyl$ ,  $-NH-(CR^{13}R^{15})_t(C_6-C_{10})aryl$ , or  $-NH-(CR^{13}R^{15})_t(C_1-C_{10})heteroaryl-NH-$  {wherein t is an integer from 0 to 2},  $[(C_1-C_8)alkyl]_2>N-$ ,  $[(C_1-C_8)alkyl][(C_3-C_{10})cycloalkyl]>N-$ ,  $(C_3-C_{10})cycloalkyl$ ,  $(C_2-C_{10})heterocyclyl$ ,  $(C_6-C_{10})aryl$ , and  $(C_1-C_{10})heteroaryl$ ; wherein said  $R^{33}$  is  $(C_1-C_8)alkyl$ ,  $-(CR^{13}R^{15})_q(C_3-C_{10})cycloalkyl$ ,  $-(CR^{13}R^{15})_q(C_2-C_{10})heterocyclyl$ ,  $-(CR^{13}R^{15})_q(C_6-C_{10})aryl$ , or  $-(CR^{13}R^{15})_q(C_1-C_{10})heteroaryl$ ; and wherein q is an integer from 0 to 2.

6. (original) The compound according to claim 5 wherein said  $(C_3-C_{10})cycloalkyl$  substituent wherever it occurs is unsubstituted or substituted with one to four substituents independently selected from the group consisting of  $(C_3-C_{10})cycloalkyl$ ,  $(C_2-C_{10})heterocyclyl$ ,  $(C_6-C_{10})aryl$ , and  $(C_1-C_{10})heteroaryl$ .

7. (original) The compound according to claim 5 wherein said (C<sub>6</sub>-C<sub>10</sub>)aryl substituent wherever it occurs is unsubstituted or substituted with one to four substituents independently selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl, F, Cl, Br, CN, OH, and CF<sub>3</sub>.

8. (original) The compound according to claim 5 wherein said (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl substituent wherever it occurs is unsubstituted or substituted with one or two substituents independently selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl, -(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -(C=O)-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -S-(C<sub>1</sub>-C<sub>8</sub>)alkyl, F, Br, OH, and CF<sub>3</sub>.

9. (original) The compound according to claim 1 wherein R<sup>3</sup> is -NR<sup>15</sup>-C(=O)-R<sup>16</sup>; wherein R<sup>16</sup> is (C<sub>2</sub>-C<sub>8</sub>)alkenyl unsubstituted or substituted with one to four substituents independently selected from the group consisting of (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, and (C<sub>1</sub>-C<sub>10</sub>)heteroaryl; wherein said (C<sub>6</sub>-C<sub>10</sub>)aryl substituent is unsubstituted or substituted with one to four substituents independently selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl, F, Cl, Br, CN, OH, and CF<sub>3</sub>; and wherein said (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl substituent is unsubstituted or substituted with one or two substituents independently selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl, -(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -(C=O)-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -S-(C<sub>1</sub>-C<sub>8</sub>)alkyl, F, Br, OH, and CF<sub>3</sub>.

10. (original) The compound according to claim 1 wherein R<sup>3</sup> is -NR<sup>15</sup>-C(=O)-R<sup>16</sup>; wherein R<sup>16</sup> is (C<sub>1</sub>-C<sub>10</sub>)heteroaryl unsubstituted or substituted with one or two substituents independently selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl, -(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -S-(C<sub>1</sub>-C<sub>8</sub>)alkyl, F, Cl, CN, OH, and CF<sub>3</sub>.

11. (original) The compound according to claim 10 wherein said R<sup>16</sup> is pyridinyl.

12. (original) The compound according to claim 1 wherein R<sup>3</sup> is -NR<sup>15</sup>-C(=O)-R<sup>16</sup>; wherein R<sup>16</sup> is (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl unsubstituted or substituted with one or two substituents independently selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl, F, Cl, CN, OH, NH<sub>2</sub>, CF<sub>3</sub>, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, and (C<sub>1</sub>-C<sub>10</sub>)heteroaryl; wherein said (C<sub>6</sub>-C<sub>10</sub>)aryl substituent is unsubstituted or substituted with one to four substituents independently selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl, F, Cl, Br, CN, OH, and CF<sub>3</sub>; and wherein said (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl substituent is unsubstituted or substituted with one or two substituents independently selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl, -(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -(C=O)-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -S-(C<sub>1</sub>-C<sub>8</sub>)alkyl, F, Br, OH, and CF<sub>3</sub>.

13. (original) The compound according to claim 12 wherein said R<sup>16</sup> (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl is selected from the group consisting of cyclopropyl and cyclohexyl.

14. (original) The compound according to claim 12 wherein said (C<sub>6</sub>-C<sub>10</sub>)aryl substituent is unsubstituted.

15. (original) The compound according to claim 1 wherein R<sup>3</sup> is -NR<sup>15</sup>-C(=O)-R<sup>16</sup>; wherein R<sup>16</sup> is (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl unsubstituted or substituted with one to four substituents independently selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl, -(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -(C=O)-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl, F, Cl, CN, OH, and CF<sub>3</sub>.

16. (original) The compound according to claim 15 wherein said  $R^{16}$  ( $C_2$ - $C_{10}$ )heterocyclyl is selected from the group consisting of piperazinyl, piperidinyl, pyrrolidinyl, pyrrolidinonyl, thiadiazolyl, tetrahydroisoquinolyl, tetrahydronaphthalenyl, and indanyl.

17. (original) The compound according to claim 1 wherein  $R^3$  is  $-NR^{15}-C(=O)-R^{16}$ ; wherein  $R^{16}$  is phenyl unsubstituted or substituted with one to three substituents independently selected from the group consisting of ( $C_1$ - $C_8$ )alkyl, ( $C_1$ - $C_8$ )alkyl-O-, F, Cl, Br, CN, OH, and  $CF_3$ .

18. (original) The compound according to claim 1 wherein  $R^1$  is ( $C_1$ - $C_8$ )alkyl substituted with one to two substituents independently selected from the group consisting of F, Cl, -OH, - $NH_2$ , ( $C_1$ - $C_8$ )alkyl-NH-,  $[(C_1-C_8)alkyl]_2>N$ -, and ( $C_1$ - $C_8$ )alkyl-O-; wherein each of said ( $C_1$ - $C_8$ )alkyl substituent, wherever it occurs, is independently unsubstituted or substituted with one to three substituents independently selected from the group consisting of - $NH_2$ , ( $C_1$ - $C_8$ )alkyl-NH-,  $[(C_1-C_8)alkyl]_2>N$ -, -O-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, ( $C_2$ - $C_{10}$ )heterocyclyl, ( $C_6$ - $C_{10}$ )aryl, and ( $C_1$ - $C_{10}$ )heteroaryl.

19. (original) The compound according to claim 1 wherein  $R^1$  is ( $C_2$ - $C_8$ )alkenyl or ( $C_2$ - $C_8$ )alkynyl; wherein each of said ( $C_2$ - $C_8$ )alkenyl or ( $C_2$ - $C_8$ )alkynyl is unsubstituted or substituted with one to two substituents independently selected from the group consisting of - $NH_2$ , ( $C_1$ - $C_8$ )alkyl-NH-,  $[(C_1-C_8)alkyl]_2>N$ -, ( $C_2$ - $C_{10}$ )heterocyclyl, and ( $C_1$ - $C_{10}$ )heteroaryl; wherein each of said ( $C_1$ - $C_8$ )alkyl substituent, wherever it occurs, is independently unsubstituted or substituted with one to three substituents independently selected from the group consisting of - $NH_2$ , ( $C_1$ - $C_8$ )alkyl-NH-,  $[(C_1-C_8)alkyl]_2>N$ -, -O-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, ( $C_2$ - $C_{10}$ )heterocyclyl, ( $C_6$ - $C_{10}$ )aryl, and ( $C_1$ - $C_{10}$ )heteroaryl.

20. (original) The compound according to claim 1 wherein  $R^1$  is  $R^{36}$  selected from the group consisting of H, Cl, and Br.

21. (original) The compound according to claim 1 wherein  $R^1$  is selected from the group consisting of ( $C_3$ - $C_6$ )cycloalkyl, ( $C_2$ - $C_{10}$ )heterocyclyl, phenyl, and ( $C_1$ - $C_{10}$ )heteroaryl; wherein each of said ( $C_2$ - $C_{10}$ )heterocyclyl, phenyl, or ( $C_1$ - $C_{10}$ )heteroaryl is unsubstituted or substituted with one to three substituents independently selected from the group consisting of ( $C_1$ - $C_8$ )alkyl, F, Cl, - $NH_2$ , -OH, ( $C_1$ - $C_8$ )alkyl-NH-, and  $[(C_1-C_8)alkyl]_2>N$ -, wherein each of said ( $C_1$ - $C_8$ )alkyl substituent, wherever it occurs, is unsubstituted or substituted with one to three substituents selected from - $NH_2$ , ( $C_1$ - $C_8$ )alkyl-NH-,  $[(C_1-C_8)alkyl]_2>N$ -, -O-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, ( $C_2$ - $C_{10}$ )heterocyclyl, ( $C_6$ - $C_{10}$ )aryl, and ( $C_1$ - $C_{10}$ )heteroaryl.

22. (original) The compound according to claim 1 wherein  $R^1$  is  $-C(=O)-R^5$ ; wherein  $R^5$  is ( $C_1$ - $C_8$ )alkyl-O- or ( $C_2$ - $C_{10}$ )heterocyclyl.

23. (original) The compound according to claim 1 wherein  $R^1$  is  $-C(=O)-NR^6R^7$ ; wherein each of said  $R^6$  and  $R^7$  are independently H or ( $C_1$ - $C_8$ )alkyl; and wherein each of said  $R^6$  and  $R^7$  ( $C_1$ - $C_8$ )alkyl are unsubstituted or substituted with one to three substituents independently selected

from the group consisting of OH, -NH<sub>2</sub>, (C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-, [(C<sub>1</sub>-C<sub>8</sub>)alkyl]<sub>2</sub>>N-, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, and (C<sub>1</sub>-C<sub>10</sub>)heteroaryl.

24. (original) The compound according to claim 1 wherein R<sup>2</sup> is H or (C<sub>1</sub>-C<sub>8</sub>)alkyl unsubstituted or substituted with one to four substituents independently selected from the group consisting of OH, -NH<sub>2</sub>, (C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-, [(C<sub>1</sub>-C<sub>8</sub>)alkyl]<sub>2</sub>>N-, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, and (C<sub>1</sub>-C<sub>10</sub>)heteroaryl.

25. (original) The compound according to claim 1 wherein R<sup>2</sup> is -C(=O)-R<sup>8</sup>, wherein R<sup>8</sup> is selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl, (C<sub>2</sub>-C<sub>8</sub>)alkenyl, (C<sub>2</sub>-C<sub>8</sub>)alkynyl, -NH<sub>2</sub>, and R<sup>37</sup> selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-, [(C<sub>1</sub>-C<sub>8</sub>)alkyl]<sub>2</sub>>N-, and (C<sub>1</sub>-C<sub>8</sub>)alkyl-O-; wherein each of said R<sup>8</sup> and R<sup>37</sup> (C<sub>1</sub>-C<sub>8</sub>)alkyl, wherever it occurs, is independently unsubstituted or substituted with one to four substituents independently selected from R<sup>40</sup> selected from the group consisting of F, OH, -NH<sub>2</sub>, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, (C<sub>1</sub>-C<sub>10</sub>)heteroaryl; (C<sub>1</sub>-C<sub>8</sub>)alkyl-NH- and [(C<sub>1</sub>-C<sub>8</sub>)alkyl]<sub>2</sub>>N-;

wherein each of said R<sup>40</sup> (C<sub>1</sub>-C<sub>8</sub>)alkyl, wherever it occurs, is independently unsubstituted or substituted with one to four substituents independently selected from R<sup>44</sup> independently selected from the group consisting of OH, -NH<sub>2</sub>, (C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-, [(C<sub>1</sub>-C<sub>8</sub>)alkyl]<sub>2</sub>>N-, and (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl-NH-;

wherein each of said each of said R<sup>40</sup> (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, or (C<sub>1</sub>-C<sub>10</sub>)heteroaryl, wherever it occurs, is independently unsubstituted or substituted with one to four substituents independently selected from R<sup>47</sup> selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl, OH, -NH<sub>2</sub>, (C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-, [(C<sub>1</sub>-C<sub>8</sub>)alkyl]<sub>2</sub>>N-, and (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl-NH-; and

wherein each of said R<sup>47</sup> (C<sub>1</sub>-C<sub>8</sub>)alkyl, wherever it occurs, is independently unsubstituted or substituted with one to four substituents independently selected from the group consisting of OH, -NH<sub>2</sub>, (C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-, [(C<sub>1</sub>-C<sub>8</sub>)alkyl]<sub>2</sub>>N-, and (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl-NH.

26. (original) The compound according to claim 1 wherein R<sup>2</sup> is -C(=O)-R<sup>8</sup>, wherein R<sup>8</sup> is selected from the group consisting of (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, phenyl, or (C<sub>1</sub>-C<sub>10</sub>)heteroaryl; wherein each of said R<sup>8</sup> (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, phenyl, or (C<sub>1</sub>-C<sub>10</sub>)heteroaryl is unsubstituted or substituted with one to four substituents independently selected from R<sup>40</sup> selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl, F, OH, -NH<sub>2</sub>, (C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-, [(C<sub>1</sub>-C<sub>8</sub>)alkyl]<sub>2</sub>>N-, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, and (C<sub>1</sub>-C<sub>10</sub>)heteroaryl; wherein each of said R<sup>40</sup> (C<sub>1</sub>-C<sub>8</sub>)alkyl, wherever it occurs, is independently unsubstituted or substituted with one to four substituents independently selected from R<sup>44</sup> independently selected from the group consisting OH, -NH<sub>2</sub>, (C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-, [(C<sub>1</sub>-C<sub>8</sub>)alkyl]<sub>2</sub>>N-, and (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl-NH-; wherein each of said R<sup>40</sup> (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, or (C<sub>1</sub>-C<sub>10</sub>)heteroaryl is unsubstituted or substituted with one to four substituents independently selected from R<sup>47</sup> selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl, OH, -NH<sub>2</sub>,



(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-, [(C<sub>1</sub>-C<sub>8</sub>)alkyl]<sub>2</sub>>N-, and (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl-NH-; wherein each of said R<sup>47</sup> (C<sub>1</sub>-C<sub>8</sub>)alkyl, wherever it occurs, is unsubstituted or substituted with one to four substituents independently selected from the group consisting of OH, -NH<sub>2</sub>, (C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-, [(C<sub>1</sub>-C<sub>8</sub>)alkyl]<sub>2</sub>>N-, and (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl-NH.

27. (original) The compound according to claim 1 wherein said R<sup>3</sup> is on position 8 of said compound of the formula I.

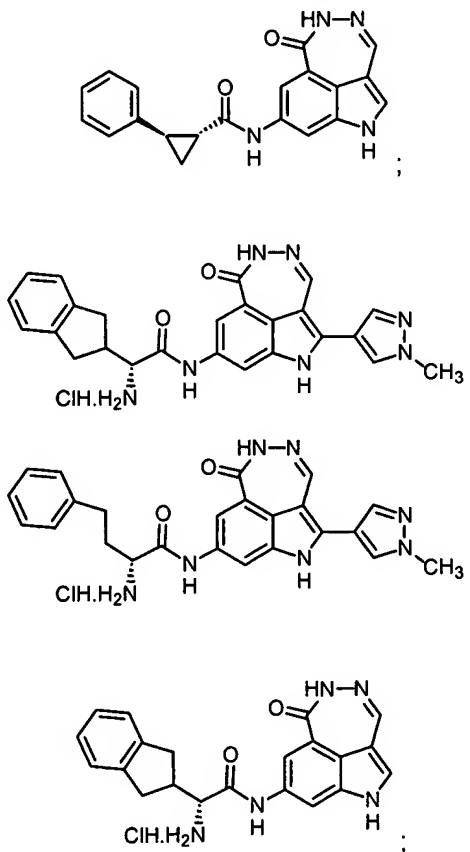
28. (original) The compound according to claim 1 wherein said R<sup>4</sup> is on position 7 of said compound of the formula I.

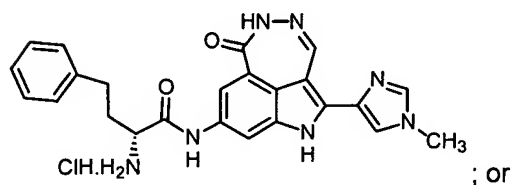
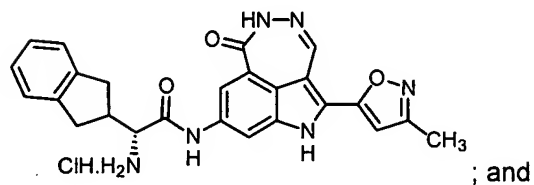
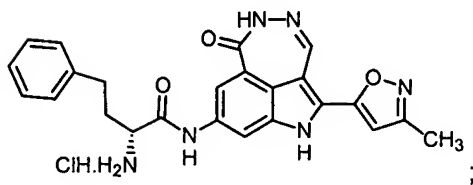
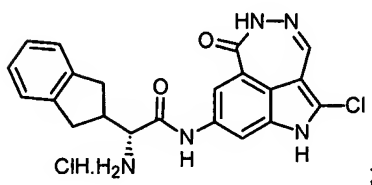
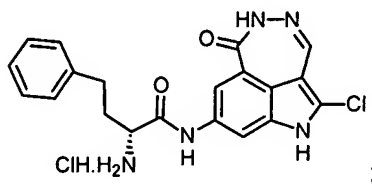
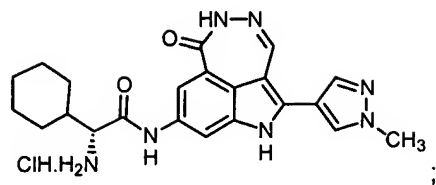
29. (original) The compound according to claim 1 wherein said R<sup>4</sup> is H on position 7 of said compound of the formula I.

30. (original) The compound according to claim 1 wherein X is =O.

31. (original) The compound according to claim 1 wherein the group -Y-Z- has the formula -N=CH-.

32. (original) The compound according to claim 1 selected from the group consisting of:

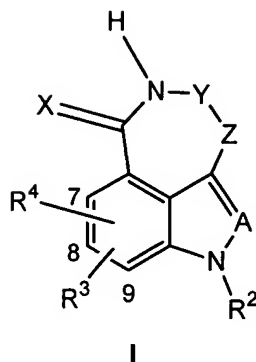




a pharmaceutically acceptable salt or solvate thereof.

Claims 33-45. (Canceled)

46. (new) A compound of the formula I:



wherein:

X is =O or =S;

A is =CR<sup>1</sup>- or =N-;

The group -Y-Z- has the formula -O-CH<sub>2</sub>- or -N=CH-;

R<sup>1</sup> is:

(a) (C<sub>1</sub>-C<sub>8</sub>)alkyl;

(b) -C(=O)-R<sup>5</sup>;

(c) -C(=O)-NR<sup>6</sup>R<sup>7</sup>; or

(d) R<sup>35</sup>, or R<sup>36</sup>, (C<sub>2</sub>-C<sub>8</sub>)alkenyl, or (C<sub>2</sub>-C<sub>8</sub>)alkynyl {wherein each of said (C<sub>2</sub>-C<sub>8</sub>)alkenyl or (C<sub>2</sub>-C<sub>8</sub>)alkynyl is unsubstituted or substituted with one to four substituents independently selected from the group consisting of F, Cl, OH, -NH<sub>2</sub>, R<sup>40</sup>, and R<sup>42</sup>};

R<sup>2</sup> is

(a) H, OH, or (C<sub>1</sub>-C<sub>8</sub>)alkyl;

(b) -C(=O)-R<sup>8</sup>;

(c) -(C=S)-R<sup>9</sup> or -(C=S)-NR<sup>10</sup>R<sup>11</sup>; or

(d) R<sup>38</sup> or R<sup>39</sup>;

R<sup>3</sup> is -NR<sup>15</sup>-C(=O)-R<sup>16</sup>;

R<sup>4</sup> is selected from the group consisting of H, F, Br, Cl, and (C<sub>1</sub>-C<sub>8</sub>)alkyl;

R<sup>5</sup> is selected from the group consisting of H, (C<sub>1</sub>-C<sub>8</sub>)alkyl, (C<sub>1</sub>-C<sub>8</sub>)alkyl-O-, and R<sup>36</sup>;

Each R<sup>6</sup> and R<sup>7</sup> are independently selected from the group consisting of H, (C<sub>1</sub>-C<sub>8</sub>)alkyl, and R<sup>36</sup>;

R<sup>8</sup> is selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl, (C<sub>2</sub>-C<sub>8</sub>)alkenyl, (C<sub>2</sub>-C<sub>8</sub>)alkynyl, -NH<sub>2</sub>, R<sup>36</sup>, and R<sup>37</sup>;

Each of R<sup>9</sup>, R<sup>10</sup> and R<sup>11</sup> are independently selected from the group consisting of H, (C<sub>1</sub>-C<sub>8</sub>)alkyl, and R<sup>36</sup>;

R<sup>13</sup> is H or (C<sub>1</sub>-C<sub>8</sub>)alkyl;

R<sup>15</sup> is H or (C<sub>1</sub>-C<sub>8</sub>)alkyl;

R<sup>16</sup> is (C<sub>1</sub>-C<sub>8</sub>)alkyl unsubstituted or substituted with one to four substituents independently selected from the group consisting of OH, R<sup>33</sup>-O-, CN, -NH<sub>2</sub>, (C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-,

-NH-(CR<sup>13</sup>R<sup>15</sup>)<sub>t</sub>(C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, -NH-(CR<sup>13</sup>R<sup>15</sup>)<sub>t</sub>(C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, -NH-(CR<sup>13</sup>R<sup>15</sup>)<sub>t</sub>(C<sub>6</sub>-C<sub>10</sub>)aryl, or -NH-(CR<sup>13</sup>R<sup>15</sup>)<sub>t</sub>(C<sub>1</sub>-C<sub>10</sub>)heteroaryl-NH- {wherein t is an integer from 0 to 2}, [(C<sub>1</sub>-C<sub>8</sub>)alkyl]<sub>2</sub>>N-, [(C<sub>1</sub>-C<sub>8</sub>)alkyl][(C<sub>3</sub>-C<sub>10</sub>)cycloalkyl]>N-, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, and (C<sub>1</sub>-C<sub>10</sub>)heteroaryl; wherein said R<sup>33</sup> is (C<sub>1</sub>-C<sub>8</sub>)alkyl, -(CR<sup>13</sup>R<sup>15</sup>)<sub>q</sub>(C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, -(CR<sup>13</sup>R<sup>15</sup>)<sub>q</sub>(C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, -(CR<sup>13</sup>R<sup>15</sup>)<sub>q</sub>(C<sub>6</sub>-C<sub>10</sub>)aryl, or -(CR<sup>13</sup>R<sup>15</sup>)<sub>q</sub>(C<sub>1</sub>-C<sub>10</sub>)heteroaryl; and wherein q is an integer from 0 to 2;

R<sup>25</sup> is H or (C<sub>1</sub>-C<sub>8</sub>)alkyl;

R<sup>26</sup> is selected from the group consisting of -C(=O)-O-C(CH<sub>3</sub>)<sub>3</sub>, (C<sub>1</sub>-C<sub>8</sub>)alkyl, -(CR<sup>13</sup>R<sup>15</sup>)<sub>t</sub>(C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, -(CR<sup>13</sup>R<sup>15</sup>)<sub>t</sub>(C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, -(CR<sup>13</sup>R<sup>15</sup>)<sub>t</sub>(C<sub>6</sub>-C<sub>10</sub>)aryl, and -(CR<sup>13</sup>R<sup>15</sup>)<sub>t</sub>(C<sub>1</sub>-C<sub>10</sub>)heteroaryl; wherein t is an integer from 0 to 2;

or R<sup>25</sup> and R<sup>26</sup> may optionally be taken together with the nitrogen to which they are attached to form a 5 to 8-membered heteroaryl or heterocyclyl ring;

R<sup>27</sup> is selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, and (C<sub>1</sub>-C<sub>10</sub>)heteroaryl;

R<sup>28</sup> is selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, and (C<sub>1</sub>-C<sub>10</sub>)heteroaryl;

R<sup>29</sup> is H or (C<sub>1</sub>-C<sub>8</sub>)alkyl;

R<sup>30</sup> is (C<sub>1</sub>-C<sub>8</sub>)alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, or (C<sub>1</sub>-C<sub>10</sub>)heteroaryl;

or R<sup>29</sup> and R<sup>30</sup> may optionally be taken together with the nitrogen to which they are attached to form a 5 to 8-membered heteroaryl or heterocyclyl ring;

R<sup>31</sup> is H or (C<sub>1</sub>-C<sub>8</sub>)alkyl;

R<sup>32</sup> is independently selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, and (C<sub>1</sub>-C<sub>10</sub>)heteroaryl;

or R<sup>31</sup> and R<sup>32</sup> may optionally be taken together with the nitrogen to which they are attached to form a 5 to 8-membered heteroaryl or heterocyclyl ring;

R<sup>33</sup> is (C<sub>1</sub>-C<sub>8</sub>)alkyl, -(CR<sup>13</sup>R<sup>15</sup>)<sub>q</sub>(C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, -(CR<sup>13</sup>R<sup>15</sup>)<sub>q</sub>(C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, -(CR<sup>13</sup>R<sup>15</sup>)<sub>q</sub>(C<sub>6</sub>-C<sub>10</sub>)aryl, or -(CR<sup>13</sup>R<sup>15</sup>)<sub>q</sub>(C<sub>1</sub>-C<sub>10</sub>)heteroaryl; wherein q is an integer from 0 to 2;

R<sup>34</sup> is (C<sub>1</sub>-C<sub>8</sub>)alkyl, -(CR<sup>13</sup>R<sup>15</sup>)<sub>p</sub>(C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, -(CR<sup>13</sup>R<sup>15</sup>)<sub>p</sub>(C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, -(CR<sup>13</sup>R<sup>15</sup>)<sub>p</sub>(C<sub>6</sub>-C<sub>10</sub>)aryl, or -(CR<sup>13</sup>R<sup>15</sup>)<sub>p</sub>(C<sub>1</sub>-C<sub>10</sub>)heteroaryl; wherein p is an integer from 0 to 2;

Each R<sup>35</sup> is independently selected from the group consisting of H, F, Cl, Br, I, CN, OH, NO<sub>2</sub>, -NH<sub>2</sub>, -NH-C(=O)-O-C(CH<sub>3</sub>)<sub>3</sub>, and CF<sub>3</sub>;

Each R<sup>36</sup> is independently selected from the group consisting of (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, and (C<sub>1</sub>-C<sub>10</sub>)heteroaryl;

Each R<sup>37</sup> is independently selected from the group consisting of -NR<sup>25</sup>R<sup>26</sup> and R<sup>27</sup>-O-;

R<sup>38</sup> is R<sup>28</sup>-SO<sub>n</sub>-; wherein n is 0, 1, or 2 when -SO<sub>n</sub>- is bonded to R<sup>28</sup> via an R<sup>28</sup> carbon atom, or wherein n is 1 or 2 when -SO<sub>n</sub>- is bonded to R<sup>28</sup> via an R<sup>28</sup> ring nitrogen atom;

$R^{39}$  is  $R^{29}R^{30}N-SO_n-$ ; wherein n is 1 or 2;

wherein each of said  $(C_1-C_8)$ alkyl, wherever it occurs in any of said  $R^1(a)-(d)$ ,  $R^2(a)-(d)$ ,  $R^3$ ,  $R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$ ,  $R^8$ ,  $R^9$ ,  $R^{10}$ ,  $R^{11}$ ,  $R^{13}$ ,  $R^{15}$ ,  $R^{25}$ ,  $R^{26}$ ,  $R^{27}$ ,  $R^{28}$ ,  $R^{29}$ ,  $R^{30}$ ,  $R^{31}$ ,  $R^{32}$ ,  $R^{33}$ ,  $R^{34}$ ,  $R^{37}$ ,  $R^{38}$ , and  $R^{39}$  is unsubstituted or substituted with one to four substituents independently selected from the group consisting of  $(C_2-C_8)$ alkenyl and  $R^{40}$ ;

wherein each of said  $(C_3-C_{10})$ cycloalkyl,  $(C_2-C_{10})$ heterocyclyl,  $(C_6-C_{10})$ aryl, or  $(C_1-C_{10})$ heteroaryl, wherever it occurs in said  $R^1(b)-(d)$ ,  $R^2(b)-(d)$ ,  $R^3$ ,  $R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$ ,  $R^8$ ,  $R^9$ ,  $R^{10}$ ,  $R^{11}$ ,  $R^{13}$ ,  $R^{15}$ ,  $R^{25}$ ,  $R^{26}$ ,  $R^{27}$ ,  $R^{28}$ ,  $R^{30}$ ,  $R^{32}$ ,  $R^{33}$ ,  $R^{34}$ ,  $R^{36}$ ,  $R^{37}$ ,  $R^{38}$ , and  $R^{39}$  is independently unsubstituted or substituted with one to four substituents independently selected from  $R^{40}$ ;

$R^{40}$  is selected from the group consisting of  $(C_1-C_8)$ alkyl,  $R^{41}$ ,  $R^{42}$ , and  $R^{43}$ ;

Each  $R^{41}$  is independently selected from the group consisting of F, Cl, Br, I, CN, OH,  $NO_2$ ,  $-NH_2$ ,  $-NH-C(=O)-O-C(CH_3)_3$ ,  $COOH$ ,  $-C(=O)(C_1-C_8)alkyl$ ,  $-C(=O)-O-(C_1-C_8)alkyl$ ,  $-NH-SO_2-(C_1-C_8)alkyl$ ,  $-NH-SO_2-(C_6-C_{10})aryl$ , and  $CF_3$ ;

Each  $R^{42}$  is independently selected from the group consisting of  $(C_3-C_{10})$ cycloalkyl,  $(C_2-C_{10})$ heterocyclyl,  $(C_6-C_{10})$ aryl, and  $(C_1-C_{10})$ heteroaryl;

Each  $R^{43}$  is independently selected from the group consisting of:

$-NR^{31}R^{32}$ ;  $R^{33}-O-$ ; and  $R^{34}-SO_n-$ ; wherein n is 0, 1, or 2 when  $-SO_n-$  is bonded to  $R^{34}$  via an  $R^{34}$  carbon atom, or wherein n is 1 or 2 when  $-SO_n-$  is bonded to  $R^{34}$  via an  $R^{34}$  ring nitrogen atom;

wherein each of said  $(C_1-C_8)$ alkyl, wherever it occurs in any of  $R^{40}$  and  $R^{41}$  is independently unsubstituted or substituted with one to four substituents independently selected from the group consisting of  $R^{44}$  and  $R^{45}$ ;

wherein each of said  $(C_3-C_{10})$ cycloalkyl,  $(C_2-C_{10})$ heterocyclyl,  $(C_6-C_{10})$ aryl, or  $(C_1-C_{10})$ heteroaryl, wherever it occurs in any of said  $R^{42}$  or  $R^{43}$ , is independently unsubstituted or substituted with one to four substituents independently selected from the group consisting of  $R^{47}$  selected from the group consisting of  $(C_1-C_8)$ alkyl,  $R^{44}$ , and  $R^{45}$ ;

Each  $R^{44}$  is independently selected from the group consisting of F, Cl, Br, I, CN, OH,  $NO_2$ ,  $-NH_2$ ,  $-CF_3$ ,  $-C(=NH)-NH_2$ ,  $-C(=NH)-NH-OH$ ,  $-C(=NH)-NH-O-(C_1-C_8)alkyl$ ,  $-(C=O)-O-(C_1-C_8)alkyl$ ,  $-O-(C=O)-(C_1-C_8)alkyl$ ,  $-(C=O)-(C_1-C_8)alkyl$ ,  $-(C=O)-NH_2$ ,  $-(C=O)-NH(C_1-C_8)alkyl$ ,  $-(C=O)-N[(C_1-C_8)alkyl]_2$ ,  $-NH-(C=O)-(C_1-C_8)alkyl$ ,  $R^{37}$ , and  $R^{38}$ ;

Each  $R^{45}$  is independently selected from the group consisting of  $(C_3-C_{10})$ cycloalkyl,  $(C_2-C_{10})$ heterocyclyl,  $(C_6-C_{10})$ aryl, and  $(C_1-C_{10})$ heteroaryl;

wherein each of said  $(C_1-C_8)$ alkyl wherever it occurs in any of said  $R^{44}$  or  $R^{45}$  is independently unsubstituted or substituted with one to four substituents independently selected from the group consisting of  $R^{46}$  and  $R^{47}$ ;

wherein each of said  $(C_3-C_{10})$ cycloalkyl,  $(C_2-C_{10})$ heterocyclyl,  $(C_6-C_{10})$ aryl, or  $(C_1-C_{10})$ heteroaryl, wherever it occurs in any of said  $R^{43}$  or  $R^{44}$  is independently unsubstituted or

substituted with one to four substituents independently selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl, R<sup>46</sup> and R<sup>47</sup>;

Each R<sup>46</sup> is independently selected from the group consisting of F, Cl, Br, I, CN, OH, NO<sub>2</sub>, -C(=NH)-NH<sub>2</sub>, -C(=NH)-NH-OH, -C(=NH)-NH-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -(C=O)-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -O-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -(C=O)-NH<sub>2</sub>, -(C=O)-NH(C<sub>1</sub>-C<sub>8</sub>)alkyl, -(C=O)-N<[(C<sub>1</sub>-C<sub>8</sub>)alkyl]<sub>2</sub>, -NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -C(=NH)-NH<sub>2</sub>, -C(=NH)-NH-OH, -C(=NH)-NH-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -(C=O)-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -O-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -(C=O)-NH<sub>2</sub>, -(C=O)-NH(C<sub>1</sub>-C<sub>8</sub>)alkyl, -(C=O)-N>[(C<sub>1</sub>-C<sub>8</sub>)alkyl]<sub>2</sub>, -NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, R<sup>37</sup>, and R<sup>38</sup>; and

Each R<sup>47</sup> is independently selected from the group consisting of (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl; (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, and (C<sub>1</sub>-C<sub>10</sub>)heteroaryl;

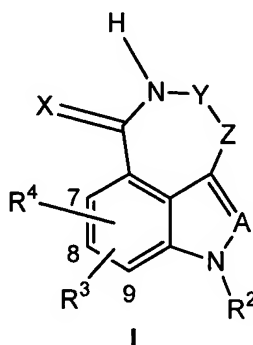
or a pharmaceutically acceptable salt thereof.

47. (new) The compound according to claim 46 wherein said (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl substituent wherever it occurs is unsubstituted or substituted with one to four substituents independently selected from the group consisting of (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, and (C<sub>1</sub>-C<sub>10</sub>)heteroaryl.

48. (new) The compound according to claim 46 wherein said (C<sub>6</sub>-C<sub>10</sub>)aryl substituent wherever it occurs is unsubstituted or substituted with one to four substituents independently selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl, F, Cl, Br, CN, OH, and CF<sub>3</sub>.

49. (new) The compound according to claim 46 wherein said (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl substituent wherever it occurs is unsubstituted or substituted with one or two substituents independently selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl, -(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -(C=O)-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -S-(C<sub>1</sub>-C<sub>8</sub>)alkyl, F, Br, OH, and CF<sub>3</sub>.

50. (new) A compound of formula I,



wherein:

X is =O or =S;

A is =CR<sup>1</sup>- or =N-;

The group -Y-Z- has the formula -O-CH<sub>2</sub>- or -N=CH-;

$R^1$  is selected from the group consisting of  $(C_3-C_6)$ cycloalkyl,  $(C_2-C_{10})$ heterocyclyl, phenyl, and  $(C_1-C_{10})$ heteroaryl; wherein each of said  $(C_2-C_{10})$ heterocyclyl, phenyl, or  $(C_1-C_{10})$ heteroaryl is unsubstituted or substituted with one to three substituents independently selected from the group consisting of  $(C_1-C_8)$ alkyl, F, Cl,  $-NH_2$ ,  $-OH$ ,  $(C_1-C_8)$ alkyl-NH-, and  $[(C_1-C_8)alkyl]_2N-$ ; wherein each of said  $(C_1-C_8)$ alkyl substituent, wherever it occurs, is unsubstituted or substituted with one to three substituents selected from  $-NH_2$ ,  $(C_1-C_8)$ alkyl-NH-,  $[(C_1-C_8)alkyl]_2N-$ ,  $-O-(C=O)-(C_1-C_8)alkyl$ ,  $(C_2-C_{10})$ heterocyclyl,  $(C_6-C_{10})$ aryl, and  $(C_1-C_{10})$ heteroaryl;

$R^2$  is

- (a) H, OH, or  $(C_1-C_8)$ alkyl;
- (b)  $-C(=O)-R^8$ ;
- (c)  $-(C=S)-R^9$  or  $-(C=S)-NR^{10}R^{11}$ ; or
- (d)  $R^{38}$  or  $R^{39}$ ;

$R^3$  is

- (a)  $R^{38}$ ;
- (b)  $-C(=O)-R^{12}$ ;
- (c)  $-C(=O)-NR^{13}R^{14}$ ;
- (d)  $-NR^{15}-C(=O)-R^{16}$ ;
- (e)  $-NR^{17}-SO_2R^{18}$ ;
- (f)  $-NR^{19}-SO_n-NR^{20}R^{21}$  {wherein n is 1 or 2};
- (g)  $-NR^{22}-(C=S)-R^{23}$  or  $-NR^{22}-(C=S)-NR^{23}R^{24}$ ;

(h)  $R^{36}$ ,  $(C_2-C_8)$ alkenyl, or  $(C_2-C_8)$ alkynyl {wherein each of said  $R^3$   $(C_2-C_8)$ alkenyl or  $(C_2-C_8)$ alkynyl is unsubstituted or substituted with one to four substituents independently selected from the group consisting of  $-(C=O)-O-(C_1-C_8)alkyl$ ,  $-O-(C=O)-(C_1-C_8)alkyl$ ,  $-(C=O)-(C_1-C_8)alkyl$ ,  $R^{40}$ ,  $R^{41}$ , and  $R^{42}$ }; or

(i)  $R^{37}$ ,  $-NH_2$ ,  $-NH((C_2-C_8)alkenyl)$ ,  $-NH((C_2-C_8)alkynyl)$ ,  $-N((C_1-C_8)alkyl)((C_2-C_8)alkenyl)$ , or  $-N((C_1-C_8)alkyl)((C_2-C_8)alkynyl)$  {wherein each of said  $R^{26}$   $(C_2-C_8)$ alkenyl or  $(C_2-C_8)$ alkynyl is unsubstituted or substituted with one to four substituents independently selected from the group consisting of  $R^{40}$ ,  $R^{41}$ , and  $R^{42}$ };

$R^4$  is selected from the group consisting of H, F, Br, Cl, and  $(C_1-C_8)alkyl$ ;

$R^8$  is selected from the group consisting of  $(C_1-C_8)alkyl$ ,  $(C_2-C_8)alkenyl$ ,  $(C_2-C_8)alkynyl$ ,  $-NH_2$ ,  $R^{36}$ , and  $R^{37}$ ;

Each of  $R^9$ ,  $R^{10}$  and  $R^{11}$  are independently selected from the group consisting of H,  $(C_1-C_8)alkyl$ , and  $R^{36}$ ;

$R^{12}$  is selected from the group consisting of H, OH,  $(C_1-C_8)alkyl$ ,  $(C_1-C_8)alkyl-O-$ , and  $R^{36}$ ;

$R^{13}$  is H or  $(C_1-C_8)alkyl$ ;

$R^{14}$  is selected from the group consisting of H,  $(C_1-C_8)alkyl$ ,  $-CH_2-(C=O)-O-(C_1-C_8)alkyl$ , and  $R^{36}$ ;

$R^{15}$  is H or  $(C_1-C_8)$ alkyl;

$R^{16}$  is selected from the group consisting of H,  $(C_1-C_8)$ alkyl,  $(C_2-C_8)$ alkenyl,  $(C_2-C_8)$ alkynyl,  $-NH_2$ ,  $R^{36}$ , and  $R^{37}$ ;

wherein said  $R^{16}$   $(C_2-C_8)$ alkenyl or  $(C_2-C_8)$ alkynyl is unsubstituted or substituted with one to four substituents independently selected from the group consisting of  $R^{40}$ ;

$R^{17}$  is selected from the group consisting of H,  $(C_1-C_8)$ alkyl, and  $R^{36}$ ;

$R^{18}$  is  $(C_1-C_8)$ alkyl or  $R^{36}$ ;

$R^{19}$ ,  $R^{20}$ , and  $R^{21}$  are independently selected from the group consisting of H,  $(C_1-C_8)$ alkyl, and  $R^{36}$ ;

$R^{22}$ ,  $R^{23}$  and  $R^{24}$  are independently selected from the group consisting of H,  $(C_1-C_8)$ alkyl, and  $R^{36}$ ;

$R^{25}$  is H or  $(C_1-C_8)$ alkyl;

$R^{26}$  is selected from the group consisting of  $-C(=O)-O-C(CH_3)_3$ ,  $(C_1-C_8)$ alkyl,  $-(CR^{13}R^{15})_t(C_3-C_{10})$ cycloalkyl,  $-(CR^{13}R^{15})_t(C_2-C_{10})$ heterocyclyl,  $-(CR^{13}R^{15})_t(C_6-C_{10})$ aryl, and  $-(CR^{13}R^{15})_t(C_1-C_{10})$ heteroaryl; wherein t is an integer from 0 to 2;

or  $R^{25}$  and  $R^{26}$  may optionally be taken together with the nitrogen to which they are attached to form a 5 to 8-membered heteroaryl or heterocyclyl ring;

$R^{27}$  is selected from the group consisting of  $(C_1-C_8)$ alkyl,  $(C_3-C_{10})$ cycloalkyl,  $(C_2-C_{10})$ heterocyclyl,  $(C_6-C_{10})$ aryl, and  $(C_1-C_{10})$ heteroaryl;

$R^{28}$  is selected from the group consisting of  $(C_1-C_8)$ alkyl,  $(C_3-C_{10})$ cycloalkyl,  $(C_2-C_{10})$ heterocyclyl,  $(C_6-C_{10})$ aryl, and  $(C_1-C_{10})$ heteroaryl;

$R^{29}$  is H or  $(C_1-C_8)$ alkyl;

$R^{30}$  is  $(C_1-C_8)$ alkyl,  $(C_3-C_{10})$ cycloalkyl,  $(C_2-C_{10})$ heterocyclyl,  $(C_6-C_{10})$ aryl, or  $(C_1-C_{10})$ heteroaryl;

or  $R^{29}$  and  $R^{30}$  may optionally be taken together with the nitrogen to which they are attached to form a 5 to 8-membered heteroaryl or heterocyclyl ring;

$R^{31}$  is H or  $(C_1-C_8)$ alkyl;

$R^{32}$  is independently selected from the group consisting of  $(C_1-C_8)$ alkyl,  $(C_3-C_{10})$ cycloalkyl,  $(C_2-C_{10})$ heterocyclyl,  $(C_6-C_{10})$ aryl, and  $(C_1-C_{10})$ heteroaryl;

or  $R^{31}$  and  $R^{32}$  may optionally be taken together with the nitrogen to which they are attached to form a 5 to 8-membered heteroaryl or heterocyclyl ring;

$R^{33}$  is  $(C_1-C_8)$ alkyl,  $-(CR^{13}R^{15})_q(C_3-C_{10})$ cycloalkyl,  $-(CR^{13}R^{15})_q(C_2-C_{10})$ heterocyclyl,  $-(CR^{13}R^{15})_q(C_6-C_{10})$ aryl, or  $-(CR^{13}R^{15})_q(C_1-C_{10})$ heteroaryl; wherein q is an integer from 0 to 2;

$R^{34}$  is  $(C_1-C_8)$ alkyl,  $-(CR^{13}R^{15})_p(C_3-C_{10})$ cycloalkyl,  $-(CR^{13}R^{15})_p(C_2-C_{10})$ heterocyclyl,  $-(CR^{13}R^{15})_p(C_6-C_{10})$ aryl, or  $-(CR^{13}R^{15})_p(C_1-C_{10})$ heteroaryl; wherein p is an integer from 0 to 2;

Each  $R^{35}$  is independently selected from the group consisting of H, F, Cl, Br, I, CN, OH,  $NO_2$ ,  $-NH_2$ ,  $-NH-C(=O)-O-C(CH_3)_3$ , and  $CF_3$ ;



Each  $R^{36}$  is independently selected from the group consisting of  $(C_3-C_{10})$ cycloalkyl,  $(C_2-C_{10})$ heterocyclyl,  $(C_6-C_{10})$ aryl, and  $(C_1-C_{10})$ heteroaryl;

Each  $R^{37}$  is independently selected from the group consisting of  $-NR^{25}R^{26}$  and  $R^{27}-O-$ ;

$R^{38}$  is  $R^{28}-SO_n-$ ; wherein n is 0, 1, or 2 when  $-SO_n-$  is bonded to  $R^{28}$  via an  $R^{28}$  carbon atom, or wherein n is 1 or 2 when  $-SO_n-$  is bonded to  $R^{28}$  via an  $R^{28}$  ring nitrogen atom;

$R^{39}$  is  $R^{29}R^{30}N-SO_n-$ ; wherein n is 1 or 2;

wherein each of said  $(C_1-C_8)$ alkyl, wherever it occurs in any of said  $R^1(a)-(d)$ ,  $R^2(a)-(d)$ ,  $R^3(a)-(i)$ ,  $R^4$ ,  $R^8$ ,  $R^9$ ,  $R^{10}$ ,  $R^{11}$ ,  $R^{12}$ ,  $R^{13}$ ,  $R^{14}$ ,  $R^{15}$ ,  $R^{16}$ ,  $R^{17}$ ,  $R^{18}$ ,  $R^{19}$ ,  $R^{20}$ ,  $R^{21}$ ,  $R^{22}$ ,  $R^{23}$ ,  $R^{24}$ ,  $R^{25}$ ,  $R^{26}$ ,  $R^{27}$ ,  $R^{28}$ ,  $R^{29}$ ,  $R^{30}$ ,  $R^{31}$ ,  $R^{32}$ ,  $R^{33}$ ,  $R^{34}$ ,  $R^{37}$ ,  $R^{38}$ , and  $R^{39}$  is unsubstituted or substituted with one to four substituents independently selected from the group consisting of  $(C_2-C_8)$ alkenyl and  $R^{40}$ ;

wherein each of said  $(C_3-C_{10})$ cycloalkyl,  $(C_2-C_{10})$ heterocyclyl,  $(C_6-C_{10})$ aryl, or  $(C_1-C_{10})$ heteroaryl, wherever it occurs in said  $R^1(b)-(d)$ ,  $R^2(b)-(d)$ ,  $R^3(a)-(i)$ ,  $R^4$ ,  $R^8$ ,  $R^9$ ,  $R^{10}$ ,  $R^{11}$ ,  $R^{12}$ ,  $R^{13}$ ,  $R^{14}$ ,  $R^{15}$ ,  $R^{16}$ ,  $R^{17}$ ,  $R^{18}$ ,  $R^{19}$ ,  $R^{20}$ ,  $R^{21}$ ,  $R^{22}$ ,  $R^{23}$ ,  $R^{24}$ ,  $R^{25}$ ,  $R^{26}$ ,  $R^{27}$ ,  $R^{28}$ ,  $R^{30}$ ,  $R^{32}$ ,  $R^{33}$ ,  $R^{34}$ ,  $R^{36}$ ,  $R^{37}$ ,  $R^{38}$ , and  $R^{39}$  is independently unsubstituted or substituted with one to four substituents independently selected from  $R^{40}$ ;

$R^{40}$  is selected from the group consisting of  $(C_1-C_8)$ alkyl,  $R^{41}$ ,  $R^{42}$ , and  $R^{43}$ ;

Each  $R^{41}$  is independently selected from the group consisting of F, Cl, Br, I, CN, OH,  $NO_2$ ,  $-NH_2$ ,  $-NH-C(=O)-O-C(CH_3)_3$ ,  $COOH$ ,  $-C(=O)(C_1-C_8)alkyl$ ,  $-C(=O)-O-(C_1-C_8)alkyl$ ,  $-NH-SO_2-(C_1-C_8)alkyl$ ,  $-NH-SO_2-(C_6-C_{10})aryl$ , and  $CF_3$ ;

Each  $R^{42}$  is independently selected from the group consisting of  $(C_3-C_{10})$ cycloalkyl,  $(C_2-C_{10})$ heterocyclyl,  $(C_6-C_{10})$ aryl, and  $(C_1-C_{10})$ heteroaryl;

Each  $R^{43}$  is independently selected from the group consisting of:

$-NR^{31}R^{32}$ ;  $R^{33}-O-$ ; and  $R^{34}-SO_n-$ ; wherein n is 0, 1, or 2 when  $-SO_n-$  is bonded to  $R^{34}$  via an  $R^{34}$  carbon atom, or wherein n is 1 or 2 when  $-SO_n-$  is bonded to  $R^{34}$  via an  $R^{34}$  ring nitrogen atom;

wherein each of said  $(C_1-C_8)$ alkyl, wherever it occurs in any of  $R^{40}$  and  $R^{41}$  is independently unsubstituted or substituted with one to four substituents independently selected from the group consisting of  $R^{44}$  and  $R^{45}$ ;

wherein each of said  $(C_3-C_{10})$ cycloalkyl,  $(C_2-C_{10})$ heterocyclyl,  $(C_6-C_{10})$ aryl, or  $(C_1-C_{10})$ heteroaryl, wherever it occurs in any of said  $R^{42}$  or  $R^{43}$ , is independently unsubstituted or substituted with one to four substituents independently selected from the group consisting of  $R^{47}$  selected from the group consisting of  $(C_1-C_8)$ alkyl,  $R^{44}$ , and  $R^{45}$ ;

Each  $R^{44}$  is independently selected from the group consisting of F, Cl, Br, I, CN, OH,  $NO_2$ ,  $-NH_2$ ,  $-CF_3$ ,  $-C(=NH)-NH_2$ ,  $-C(=NH)-NH-OH$ ,  $-C(=NH)-NH-O-(C_1-C_8)alkyl$ ,  $-C(=O)-O-(C_1-C_8)alkyl$ ,  $-O-(C=O)-(C_1-C_8)alkyl$ ,  $-(C=O)-(C_1-C_8)alkyl$ ,  $-(C=O)-NH_2$ ,  $-(C=O)-NH(C_1-C_8)alkyl$ ,  $-(C=O)-N<[(C_1-C_8)alkyl]_2$ ,  $-NH-(C=O)-(C_1-C_8)alkyl$ ,  $R^{37}$ , and  $R^{38}$ ;

Each  $R^{45}$  is independently selected from the group consisting of  $(C_3-C_{10})$ cycloalkyl,  $(C_2-C_{10})$ heterocyclyl,  $(C_6-C_{10})$ aryl, and  $(C_1-C_{10})$ heteroaryl;

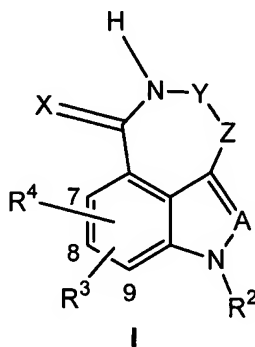
wherein each of said  $(C_1-C_8)$ alkyl wherever it occurs in any of said  $R^{44}$  or  $R^{45}$  is independently unsubstituted or substituted with one to four substituents independently selected from the group consisting of  $R^{46}$  and  $R^{47}$ ;

wherein each of said  $(C_3-C_{10})$ cycloalkyl,  $(C_2-C_{10})$ heterocyclyl,  $(C_6-C_{10})$ aryl, or  $(C_1-C_{10})$ heteroaryl, wherever it occurs in any of said  $R^{43}$  or  $R^{44}$  is independently unsubstituted or substituted with one to four substituents independently selected from the group consisting of  $(C_1-C_8)$ alkyl,  $R^{46}$  and  $R^{47}$ ;

Each  $R^{46}$  is independently selected from the group consisting of F, Cl, Br, I, CN, OH,  $NO_2$ ,  $-C(=NH)-NH_2$ ,  $-C(=NH)-NH-OH$ ,  $-C(=NH)-NH-O-(C_1-C_8)alkyl$ ,  $-(C=O)-O-(C_1-C_8)alkyl$ ,  $-O-(C=O)-(C_1-C_8)alkyl$ ,  $-(C=O)-(C_1-C_8)alkyl$ ,  $-(C=O)-NH_2$ ,  $-(C=O)-NH(C_1-C_8)alkyl$ ,  $-(C=O)-N<[(C_1-C_8)alkyl]_2$ ,  $-NH-(C=O)-(C_1-C_8)alkyl$ ,  $-C(=NH)-NH_2$ ,  $-C(=NH)-NH-OH$ ,  $-C(=NH)-NH-O-(C_1-C_8)alkyl$ ,  $-(C=O)-O-(C_1-C_8)alkyl$ ,  $-O-(C=O)-(C_1-C_8)alkyl$ ,  $-(C=O)-(C_1-C_8)alkyl$ ,  $-(C=O)-NH_2$ ,  $-(C=O)-NH(C_1-C_8)alkyl$ ,  $-(C=O)-N>[(C_1-C_8)alkyl]_2$ ,  $-NH-(C=O)-(C_1-C_8)alkyl$ ,  $R^{37}$ , and  $R^{38}$ ; and

Each  $R^{47}$  is independently selected from the group consisting of  $(C_3-C_{10})$ cycloalkyl;  $(C_2-C_{10})$ heterocyclyl,  $(C_6-C_{10})$ aryl, and  $(C_1-C_{10})$ heteroaryl; or a pharmaceutically acceptable salt thereof.

51. (new) A compound of formula I,



wherein:

X is =O or =S;

A is =CR<sup>1</sup>- or =N-;

The group -Y-Z- has the formula -N=CH-;

R<sup>1</sup> is:

(a)  $(C_1-C_8)alkyl$ ;

(b)  $-C(=O)-R^5$ ;

(c)  $-C(=O)-NR^6R^7$ ; or

(d)  $R^{35}$ , or  $R^{36}$ , (C<sub>2</sub>-C<sub>8</sub>)alkenyl, or (C<sub>2</sub>-C<sub>8</sub>)alkynyl {wherein each of said (C<sub>2</sub>-C<sub>8</sub>)alkenyl or (C<sub>2</sub>-C<sub>8</sub>)alkynyl is unsubstituted or substituted with one to four substituents independently selected from the group consisting of F, Cl, OH, -NH<sub>2</sub>,  $R^{40}$ , and  $R^{42}$ };

$R^2$  is

- (a) H, OH, or (C<sub>1</sub>-C<sub>8</sub>)alkyl;
- (b) -C(=O)- $R^8$ ;
- (c) -(C=S)- $R^9$  or -(C=S)-NR<sup>10</sup> $R^{11}$ ; or
- (d)  $R^{38}$  or  $R^{39}$ ;

$R^3$  is

- (a)  $R^{38}$ ;
- (b) -C(=O)- $R^{12}$ ;
- (c) -C(=O)-NR<sup>13</sup> $R^{14}$ ;
- (d) -NR<sup>15</sup>-C(=O)- $R^{16}$ ;
- (e) -NR<sup>17</sup>-SO<sub>2</sub> $R^{18}$ ;
- (f) -NR<sup>19</sup>-SO<sub>n</sub>-NR<sup>20</sup> $R^{21}$  {wherein n is 1 or 2};
- (g) -NR<sup>22</sup>-(C=S)- $R^{23}$  or -NR<sup>22</sup>-(C=S)-NR<sup>23</sup> $R^{24}$ ;

(h)  $R^{36}$ , (C<sub>2</sub>-C<sub>8</sub>)alkenyl, or (C<sub>2</sub>-C<sub>8</sub>)alkynyl {wherein each of said  $R^3$  (C<sub>2</sub>-C<sub>8</sub>)alkenyl or (C<sub>2</sub>-C<sub>8</sub>)alkynyl is unsubstituted or substituted with one to four substituents independently selected from the group consisting of -(C=O)-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -O-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl,  $R^{40}$ ,  $R^{41}$ , and  $R^{42}$ }; or

(i)  $R^{37}$ , -NH<sub>2</sub>, -NH((C<sub>2</sub>-C<sub>8</sub>)alkenyl), -NH((C<sub>2</sub>-C<sub>8</sub>)alkynyl), -N((C<sub>1</sub>-C<sub>8</sub>)alkyl)((C<sub>2</sub>-C<sub>8</sub>)alkenyl), or -N((C<sub>1</sub>-C<sub>8</sub>)alkyl)((C<sub>2</sub>-C<sub>8</sub>)alkynyl) {wherein each of said  $R^{26}$  (C<sub>2</sub>-C<sub>8</sub>)alkenyl or (C<sub>2</sub>-C<sub>8</sub>)alkynyl is unsubstituted or substituted with one to four substituents independently selected from the group consisting of  $R^{40}$ ,  $R^{41}$ , and  $R^{42}$ };

$R^4$  is selected from the group consisting of H, F, Br, Cl, and (C<sub>1</sub>-C<sub>8</sub>)alkyl;

$R^5$  is selected from the group consisting of H, (C<sub>1</sub>-C<sub>8</sub>)alkyl, (C<sub>1</sub>-C<sub>8</sub>)alkyl-O-, and  $R^{36}$ ;

Each  $R^6$  and  $R^7$  are independently selected from the group consisting of H, (C<sub>1</sub>-C<sub>8</sub>)alkyl, and  $R^{36}$ ;

$R^8$  is selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl, (C<sub>2</sub>-C<sub>8</sub>)alkenyl, (C<sub>2</sub>-C<sub>8</sub>)alkynyl, -NH<sub>2</sub>,  $R^{36}$ , and  $R^{37}$ ;

Each of  $R^9$ ,  $R^{10}$  and  $R^{11}$  are independently selected from the group consisting of H, (C<sub>1</sub>-C<sub>8</sub>)alkyl, and  $R^{36}$ ;

$R^{12}$  is selected from the group consisting of H, OH, (C<sub>1</sub>-C<sub>8</sub>)alkyl, (C<sub>1</sub>-C<sub>8</sub>)alkyl-O-, and  $R^{36}$ ;

$R^{13}$  is H or (C<sub>1</sub>-C<sub>8</sub>)alkyl;

$R^{14}$  is selected from the group consisting of H, (C<sub>1</sub>-C<sub>8</sub>)alkyl, -CH<sub>2</sub>-(C=O)-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl, and  $R^{36}$ ;

$R^{15}$  is H or (C<sub>1</sub>-C<sub>8</sub>)alkyl;

$R^{16}$  is selected from the group consisting of H,  $(C_1-C_8)$ alkyl,  $(C_2-C_8)$ alkenyl,  $(C_2-C_8)$ alkynyl,  $-NH_2$ ,  $R^{36}$ , and  $R^{37}$ ;

wherein said  $R^{16}$   $(C_2-C_8)$ alkenyl or  $(C_2-C_8)$ alkynyl is unsubstituted or substituted with one to four substituents independently selected from the group consisting of  $R^{40}$ ;

$R^{17}$  is selected from the group consisting of H,  $(C_1-C_8)$ alkyl, and  $R^{36}$ ;

$R^{18}$  is  $(C_1-C_8)$ alkyl or  $R^{36}$ ;

$R^{19}$ ,  $R^{20}$ , and  $R^{21}$  are independently selected from the group consisting of H,  $(C_1-C_8)$ alkyl, and  $R^{36}$ ;

$R^{22}$ ,  $R^{23}$  and  $R^{24}$  are independently selected from the group consisting of H,  $(C_1-C_8)$ alkyl, and  $R^{36}$ ;

$R^{25}$  is H or  $(C_1-C_8)$ alkyl;

$R^{26}$  is selected from the group consisting of  $-C(=O)-O-C(CH_3)_3$ ,  $(C_1-C_8)$ alkyl,  $-(CR^{13}R^{15})_t(C_3-C_{10})$ cycloalkyl,  $-(CR^{13}R^{15})_t(C_2-C_{10})$ heterocyclyl,  $-(CR^{13}R^{15})_t(C_6-C_{10})$ aryl, and  $-(CR^{13}R^{15})_t(C_1-C_{10})$ heteroaryl; wherein t is an integer from 0 to 2;

or  $R^{25}$  and  $R^{26}$  may optionally be taken together with the nitrogen to which they are attached to form a 5 to 8-membered heteroaryl or heterocycl ring;

$R^{27}$  is selected from the group consisting of  $(C_1-C_8)$ alkyl,  $(C_3-C_{10})$ cycloalkyl,  $(C_2-C_{10})$ heterocyclyl,  $(C_6-C_{10})$ aryl, and  $(C_1-C_{10})$ heteroaryl;

$R^{28}$  is selected from the group consisting of  $(C_1-C_8)$ alkyl,  $(C_3-C_{10})$ cycloalkyl,  $(C_2-C_{10})$ heterocyclyl,  $(C_6-C_{10})$ aryl, and  $(C_1-C_{10})$ heteroaryl;

$R^{29}$  is H or  $(C_1-C_8)$ alkyl;

$R^{30}$  is  $(C_1-C_8)$ alkyl,  $(C_3-C_{10})$ cycloalkyl,  $(C_2-C_{10})$ heterocyclyl,  $(C_6-C_{10})$ aryl, or  $(C_1-C_{10})$ heteroaryl;

or  $R^{29}$  and  $R^{30}$  may optionally be taken together with the nitrogen to which they are attached to form a 5 to 8-membered heteroaryl or heterocycl ring;

$R^{31}$  is H or  $(C_1-C_8)$ alkyl;

$R^{32}$  is independently selected from the group consisting of  $(C_1-C_8)$ alkyl,  $(C_3-C_{10})$ cycloalkyl,  $(C_2-C_{10})$ heterocyclyl,  $(C_6-C_{10})$ aryl, and  $(C_1-C_{10})$ heteroaryl;

or  $R^{31}$  and  $R^{32}$  may optionally be taken together with the nitrogen to which they are attached to form a 5 to 8-membered heteroaryl or heterocycl ring;

$R^{33}$  is  $(C_1-C_8)$ alkyl,  $-(CR^{13}R^{15})_q(C_3-C_{10})$ cycloalkyl,  $-(CR^{13}R^{15})_q(C_2-C_{10})$ heterocyclyl,  $-(CR^{13}R^{15})_q(C_6-C_{10})$ aryl, or  $-(CR^{13}R^{15})_q(C_1-C_{10})$ heteroaryl; wherein q is an integer from 0 to 2;

$R^{34}$  is  $(C_1-C_8)$ alkyl,  $-(CR^{13}R^{15})_p(C_3-C_{10})$ cycloalkyl,  $-(CR^{13}R^{15})_p(C_2-C_{10})$ heterocyclyl,  $-(CR^{13}R^{15})_p(C_6-C_{10})$ aryl, or  $-(CR^{13}R^{15})_p(C_1-C_{10})$ heteroaryl; wherein p is an integer from 0 to 2;

Each  $R^{35}$  is independently selected from the group consisting of H, F, Cl, Br, I, CN, OH,  $NO_2$ ,  $-NH_2$ ,  $-NH-C(=O)-O-C(CH_3)_3$ , and  $CF_3$ ;

Each  $R^{36}$  is independently selected from the group consisting of (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, and (C<sub>1</sub>-C<sub>10</sub>)heteroaryl;

Each  $R^{37}$  is independently selected from the group consisting of  $-NR^{25}R^{26}$  and  $R^{27}-O-$ ;

$R^{38}$  is  $R^{28}-SO_n-$ ; wherein n is 0, 1, or 2 when  $-SO_n-$  is bonded to  $R^{28}$  via an  $R^{28}$  carbon atom, or wherein n is 1 or 2 when  $-SO_n-$  is bonded to  $R^{28}$  via an  $R^{28}$  ring nitrogen atom;

$R^{39}$  is  $R^{29}R^{30}N-SO_n-$ ; wherein n is 1 or 2;

wherein each of said (C<sub>1</sub>-C<sub>8</sub>)alkyl, wherever it occurs in any of said  $R^1(a)-(d)$ ,  $R^2(a)-(d)$ ,  $R^3(a)-(i)$ ,  $R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$ ,  $R^8$ ,  $R^9$ ,  $R^{10}$ ,  $R^{11}$ ,  $R^{12}$ ,  $R^{13}$ ,  $R^{14}$ ,  $R^{15}$ ,  $R^{16}$ ,  $R^{17}$ ,  $R^{18}$ ,  $R^{19}$ ,  $R^{20}$ ,  $R^{21}$ ,  $R^{22}$ ,  $R^{23}$ ,  $R^{24}$ ,  $R^{25}$ ,  $R^{26}$ ,  $R^{27}$ ,  $R^{28}$ ,  $R^{29}$ ,  $R^{30}$ ,  $R^{31}$ ,  $R^{32}$ ,  $R^{33}$ ,  $R^{34}$ ,  $R^{37}$ ,  $R^{38}$ , and  $R^{39}$  is unsubstituted or substituted with one to four substituents independently selected from the group consisting of (C<sub>2</sub>-C<sub>8</sub>)alkenyl and  $R^{40}$ ;

wherein each of said (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, or (C<sub>1</sub>-C<sub>10</sub>)heteroaryl, wherever it occurs in said  $R^1(b)-(d)$ ,  $R^2(b)-(d)$ ,  $R^3(a)-(i)$ ,  $R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$ ,  $R^8$ ,  $R^9$ ,  $R^{10}$ ,  $R^{11}$ ,  $R^{12}$ ,  $R^{13}$ ,  $R^{14}$ ,  $R^{15}$ ,  $R^{16}$ ,  $R^{17}$ ,  $R^{18}$ ,  $R^{19}$ ,  $R^{20}$ ,  $R^{21}$ ,  $R^{22}$ ,  $R^{23}$ ,  $R^{24}$ ,  $R^{25}$ ,  $R^{26}$ ,  $R^{27}$ ,  $R^{28}$ ,  $R^{30}$ ,  $R^{32}$ ,  $R^{33}$ ,  $R^{34}$ ,  $R^{36}$ ,  $R^{37}$ ,  $R^{38}$ , and  $R^{39}$  is independently unsubstituted or substituted with one to four substituents independently selected from  $R^{40}$ ;

$R^{40}$  is selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl,  $R^{41}$ ,  $R^{42}$ , and  $R^{43}$ ;

Each  $R^{41}$  is independently selected from the group consisting of F, Cl, Br, I, CN, OH, NO<sub>2</sub>, -NH<sub>2</sub>, -NH-C(=O)-O-C(CH<sub>3</sub>)<sub>3</sub>, COOH, -C(=O)(C<sub>1</sub>-C<sub>8</sub>)alkyl, -C(=O)-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -NH-SO<sub>2</sub>-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -NH-SO<sub>2</sub>-(C<sub>6</sub>-C<sub>10</sub>)aryl, and CF<sub>3</sub>;

Each  $R^{42}$  is independently selected from the group consisting of (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, and (C<sub>1</sub>-C<sub>10</sub>)heteroaryl;

Each  $R^{43}$  is independently selected from the group consisting of:

$-NR^{31}R^{32}$ ,  $R^{33}-O-$ ; and  $R^{34}-SO_n-$ ; wherein n is 0, 1, or 2 when  $-SO_n-$  is bonded to  $R^{34}$  via an  $R^{34}$  carbon atom, or wherein n is 1 or 2 when  $-SO_n-$  is bonded to  $R^{34}$  via an  $R^{34}$  ring nitrogen atom;

wherein each of said (C<sub>1</sub>-C<sub>8</sub>)alkyl, wherever it occurs in any of  $R^{40}$  and  $R^{41}$  is independently unsubstituted or substituted with one to four substituents independently selected from the group consisting of  $R^{44}$  and  $R^{45}$ ;

wherein each of said (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, or (C<sub>1</sub>-C<sub>10</sub>)heteroaryl, wherever it occurs in any of said  $R^{42}$  or  $R^{43}$ , is independently unsubstituted or substituted with one to four substituents independently selected from the group consisting of  $R^{47}$  selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl,  $R^{44}$ , and  $R^{45}$ ;

Each  $R^{44}$  is independently selected from the group consisting of F, Cl, Br, I, CN, OH, NO<sub>2</sub>, -NH<sub>2</sub>, -CF<sub>3</sub>, -C(=NH)-NH<sub>2</sub>, -C(=NH)-NH-OH, -C(=NH)-NH-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -C(=O)-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -O-C(=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -C(=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -C(=O)-NH<sub>2</sub>, -C(=O)-NH(C<sub>1</sub>-C<sub>8</sub>)alkyl, -C(=O)-N<[(C<sub>1</sub>-C<sub>8</sub>)alkyl]<sub>2</sub>, -NH-C(=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl,  $R^{37}$ , and  $R^{38}$ ;

Each R<sup>45</sup> is independently selected from the group consisting of (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, and (C<sub>1</sub>-C<sub>10</sub>)heteroaryl;

wherein each of said (C<sub>1</sub>-C<sub>8</sub>)alkyl wherever it occurs in any of said R<sup>44</sup> or R<sup>45</sup> is independently unsubstituted or substituted with one to four substituents independently selected from the group consisting of R<sup>46</sup> and R<sup>47</sup>;

wherein each of said (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, or (C<sub>1</sub>-C<sub>10</sub>)heteroaryl, wherever it occurs in any of said R<sup>43</sup> or R<sup>44</sup> is independently unsubstituted or substituted with one to four substituents independently selected from the group consisting of (C<sub>1</sub>-C<sub>8</sub>)alkyl, R<sup>46</sup> and R<sup>47</sup>;

Each R<sup>46</sup> is independently selected from the group consisting of F, Cl, Br, I, CN, OH, NO<sub>2</sub>, -C(=NH)-NH<sub>2</sub>, -C(=NH)-NH-OH, -C(=NH)-NH-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -(C=O)-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -O-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -(C=O)-NH<sub>2</sub>, -(C=O)-NH(C<sub>1</sub>-C<sub>8</sub>)alkyl, -(C=O)-N<[(C<sub>1</sub>-C<sub>8</sub>)alkyl]<sub>2</sub>, -NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -C(=NH)-NH<sub>2</sub>, -C(=NH)-NH-OH, -C(=NH)-NH-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -(C=O)-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -O-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, -(C=O)-NH<sub>2</sub>, -(C=O)-NH(C<sub>1</sub>-C<sub>8</sub>)alkyl, -(C=O)-N>[(C<sub>1</sub>-C<sub>8</sub>)alkyl]<sub>2</sub>, -NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl, R<sup>37</sup>, and R<sup>38</sup>; and

Each R<sup>47</sup> is independently selected from the group consisting of (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl; (C<sub>2</sub>-C<sub>10</sub>)heterocyclyl, (C<sub>6</sub>-C<sub>10</sub>)aryl, and (C<sub>1</sub>-C<sub>10</sub>)heteroaryl;

or a pharmaceutically acceptable salt thereof.